CLAIMS

1. Device (25) for protection of an electronic component against electrostatic discharges, the device being made in a semiconducting layer (62) of a substrate, the semiconducting layer (62) covering an insulating layer (61), the device (25) being connected to a contact pin (21 to 24) to protect the said component in order to divert an electrostatic discharge, characterized in that the device (25) comprises at least one Zener diode connected to the said pin to be directly polarized.

2. Device according to claim 1, characterized in that it comprises several Zener diodes mounted in series and connected to the said pin to be directly polarized.

3. Device according to one of claims 1 or 2, characterized in that each Zener diode comprises two regions (1, 2) strongly doped with opposite conductivity types, these two regions being separated by a region (3) doped to an average level according to either of the said conductivity types.

4. Device according to claim 3, characterized in that the semiconducting layer of substrate is a silicon layer, the doping of the two regions with strong doping being of the order of 10^{20} atoms/cm^3, the doping of the region with medium level doping being of the order of 10^{18} atoms/cm^3.

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5. Device according to any one of claims 1 to 4, characterized in that the said substrate is an SOI substrate.

6. Device according to claim 2, characterized in the said the said Zener diodes (31 to 34)are laid out adjacent to each other to form the series installation, the electrical link between two adjacent diodes being obtained by metallisation (35).

7. Device according to claim 2, characterized in that the said Zener diodes (41 to 44) are laid out adjacent to each other to form the series installation, the electrical link between two adjacent diodes being obtained by a silicide.

8. Method for making a device for protection of an electronic component against electrostatic discharges, the protection device comprising at least one Zener diode made in a semiconducting layer of a substrate, the semiconducting layer covering an insulating layer, the method comprising:

- a step to define the zone of the diode or the active zone (5), in the said semiconducting layer,
- a step to implant a first zone (6) in the said active zone (5), to obtain a first zone (6) with medium doping according to a conductivity type chosen between a first conductivity type and a second conductivity type opposite to the first conductivity type,
- a step to implant a part of the said first zone (6), to obtain a second strongly doped zone (7)

ART 34 AMDT

English translation of the amended sheets of International Preliminary Examination Report

according to the said first conductivity type, the second zone (7) being separated from the unimplanted part of the active zone (5) by the remaining part of the first zone,

- a step to implant the unimplanted part of the active zone to obtain a third zone with strong doping according to the said second conductivity type.

9. Method for making a device for the protection of an electronic component against electrostatic discharges, the protection device comprising at least one Zener diode made in a semiconducting layer of a substrate, the semiconducting layer covering an insulating layer, the method comprising:

- a step to define the zone of the diode or the active zone (10) in the said semiconducting layer,
- a step to implant a first zone (13) near the central part of the active zone (10), to obtain a first medium doped zone (13) according to a conductivity type chosen between a first conductivity type and a second conductivity type opposite to the first conductivity type,
- a step to form a grid (14) made of a conducting material on the first zone (13), after formation of a thin grid oxide layer,
- a step to implant a second zone (12) of the active zone (10) adjacent to the first zone (13), to obtain a second zone with strong doping according to the first conductivity type,
- a step to implant a third zone (11) in the active zone (10), adjacent to the first zone (13) that

English translation of the amended sheets
of International Preliminary Examination Report

separates it from the second zone (12), to obtain a third zone (11) with strong doping according to the second conductivity type.

10. Method according to claim 9, characterized in that the first zone (13) is wider than the grid (14) formed on this first zone.

Add a1